as well as pigmented potato contains high level of polyphenols, this fact must be counted to avoid product browning.

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NOVEL EXTRATION TECHNIQUES OF RESVERATTROL FROM BIOWASTE*

Keywords: resveratrol, extraction, biowaste, deep eutectic solvent.

Despite the limited economical value, biowaste of grapes has been successfully used as a source of bioactive phenolic compounds such as resveratrol (RSV). RSV is a natural polyphenol that exhibits anticancer, antidiabetic, anti-inflammatory and antioxidant activities. This led to more attempts to extract this valuable substance from biowaste for further use in pharmaceutical, cosmetics and food industries [1].

Recently, several approaches to tackle the extraction and bioavailability of RSV from biowaste have been explored but still problematic. For instance, a variety of conventional (Soxhlet) and new extraction techniques have been achieved including ultrasound-assisted extraction (UAE), microwave-assisted extraction (MAE), pressurized liquid extraction, and supercritical fluid extraction [2].

In this regard, previous researches attempted to optimize different techniques for the extraction of flavonoids from grape biowaste. As a result, the yield and purity of extract were highlighted changeable according to extraction solvent, water percentage and temperature. Consequently, there was a great demand to manipulate extraction techniques by using different extraction conditions. Hence, it can increase the effectiveness of extraction, thereby allowing for an overall decrease in the amount of solvent used.

Since the pollution caused by organic solvents is a serious environmental issue, the emergence of a better eco-friendly solvent is required. The deep eutectic solvent (DES) is a green non-toxic, biodegradable and efficient solvent for bioactive compound extraction especially resveratrol [3]. However, the application of such technology is

still limited. This opened a new opportunity in the area of extraction of RES from biowaste.

In conclusion, although the studies about the impact of DES extraction technique are scarce, this technology is still promising for future commercial use. Also, further investigations about the coupling of different techniques and usage of biowaste as a major source of RES are still required.

References

1. *Nadirova S., Sinyavskiy Y., Lessova Z. et al.* // InIOP Conference Series: Earth and Environmental Science. 2019. Vol. 315, № 4. P. 042041.
2. *Wenzel E., Somoza V.* // Molecular nutrition & food research. 2005. Vol. 49, № 5. P. 472–481.
3. *Chen J., Jiang X., Yang G. et al.* // Journal of Chemistry. 2018. Vol. 201.

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BIOFLAVOR: A REVIEW*

Keywords: bioflavor, biotransformation, food additives, sensory.

Consumers are increasingly cautious of foods and food products they consume. They want products they perceive as organic or natural as its more related to good health, leading food developers into the creation of products with better quality, nutritional composition, and biological origin. Flavour increases the palatability of a food product thereby making it an important parameter in the organoleptic evaluation of food products; while fragrance has its application in the cosmetic, chemical and the pharmaceutical industry.

Flavour is the sensory perception of food or other substances which is principally determined by the chemical senses of taste and smell. It represents over a quarter of the world's market for food additives and different compounds such as terpenes, aldehydes, lactones, esters, etc. are responsible for flavour in food. Flavour can be synthesized by chemical transformation, biotechnological transformation and through